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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,662	06/28/2001	Moo Jin Lee	8733.485.00	2042

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EXAMINER

LANEAU, RONALD

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/07/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/892,662	LEE, MOO JIN	
	Examiner	Art Unit	
	Ronald Laneau	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-19 are presented for Examination. The results of the examination are the followings.

Specification

2. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohi (US 5,604,511).

As per claims 1 and 7, Ohi teaches a liquid crystal display apparatus with thin film transistors (TFTs) and a driving voltage comprising: a timing controller for receiving an input signal from the input and having an output signal, video signals N1 having a frequency which is lower than the frequency of the RGB video signal, a compensation voltage for compensating the brightness of the voltage in response to a control signal (col. 4, lines 46-59, figs 3 and 4). Ohi does not teach digital to digital converter for generating a compensation voltage and deliver it to the liquid crystal display panel but it would have been obvious to one of ordinary skill in the art to utilize a digital to digital converter as claimed because it would improve the reliability of the compensation signal going into the display panel.

As per claims 2 and 3, the compensation voltage taught by Ohi is capable of including any of a gate high voltage and a common voltage of the thin film transistors as claimed (see figs 3, 4).

As per claim 4, this a method claim corresponding to the apparatus of claim 1 and is therefore rejected on the same basis set forth in claim 1.

As per claims 6 and 7, see rejection of claims 2 and 3.

As per claims 8 to 10, the driving voltage taught by Ohi et al is capable of including a high voltage level of the scanning lines and a common voltage level of the scanning lines as claimed (see figs 3,4).

As per claims 11 and 12, Ohi does not teach a frequency detector that detects the frequency of the external control signals of the timing controller and a frequency of the control signals by detecting a corresponding frequency of an output signal of the timing controller but it would have been obvious to one of ordinary skill in the art to utilize a

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frequency detector as claimed because it would be easier for compensation voltage to adjust the liquid crystal knowing the frequency of the control signals ahead of time.

As per claim 13, this a method claim corresponding to the apparatus of claim 1 and is therefore rejected on the same basis set forth in claim 7.

As per claims 14-16, see rejection of claims 8-10.

As per claims 17-19, the voltage compensation taught by Ohi comprises the raising or lowering voltage level of the scanning lines in order to adjust the brightness of the LCD panel (see figs 3,4).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kumagawa et al (US 6,522,318) teach a drive method for compensating a crosstalk using a compensating pulse added to a signal voltage so that a drive IC and a periphery of the LCD panel are reduced in size.
- Bitzakidis et al (US 5,798,740) teach a liquid crystal display (LCD) in which data values are adjusted for crosstalk using other data values in the same column.
- Cairns et al (US 6,445,323) teach a multi-format active matrix display.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Laneau whose telephone number is 703-305-3973. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:00 PM or via email: ronald.laneau@uspto.gov.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached at 703-305-4709.

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

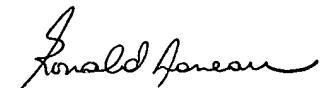
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Ronald Laneau
Examiner
Art Unit 2674

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April 3, 2003